Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Auction of Priority Access Licenses for the 3550-3650 Band (Auction 105)	)	AU Docket No. 19-244
	)	

To: The Commission

COMMENTS OF NEW AMERICA'S OPEN TECHNOLOGY INSTITUTE

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New America's Open Technology Institute ("OTI"), pursuant to Sections 1.4 and 1.405 of the Commission's Rules, hereby submit these comments in response to the Commission's Public Notice ("PN") regarding the auction of Priority Access Licenses for the Citizens Broadband Radio Service ("CBRS") in the 3550-3650 MHz band.[1]

I. Introduction and Summary

The Commission's Citizens Broadband Radio Service ("CBRS") rules for the 3.5 GHz band represent a landmark advance in spectrum policy. By opening up largely unused spectrum previously held exclusively by the U.S. Navy for shared commercial use, the Commission's rules sought to improve spectrum efficiency, promote innovation, and make small cell spectrum available to a wide variety of users and use cases. The Commission adopted small, localized Priority Access Licenses ("PALs") with short renewal times to encourage small internet service providers ("ISPs"), wireless internet service providers ("WISPs") operating in rural and other underserved areas, new market entrants and a diversity of enterprises and community institutions

[1] *See* Public Notice, AU Docket No. 19-244 (Rel. Sep. 28, 2019) ("CBRS Auction PN").

seeking to build and deploy their own neutral-host LTE networks to purchase the licenses to serve targeted areas.

The Commission is now seeking comment on a proposal likely to crowd out or diminish deployments by these small ISPs, rural WISPs, and new market entrants that the CBRS framework was meant to empower. The Commission's proposed bidding system for the nation's 172 largest Cellular Market Areas ("CMAs") will create a market distortion that artificially inflates prices for PALs in outlying, less-populated counties and results in crowding out the smaller ISPs and innovative market entrants that were meant to benefit from the CBRS framework. By requiring CMA bidders to remain in the auction in outlying counties of urban areas until the core urban counties have concluded, the prices of the PALs for those "collar" counties within the same CMA will be artificially inflated to a point that is likely to crowd out small ISPs and other localized bidders seeking to bring connectivity to these less densely populated and typically less profitable outer counties.

The proposed CMA bidding mechanism will particularly harm rural and small town consumers and businesses that were – until now – the intended beneficiary of CBRS rules aimed at facilitating access to PAL spectrum by a wide variety of competitive ISPs, enterprise networks and other innovative use cases. Although the Commission's proposal is premised on making a distinction between urban and rural areas, this proposal would adversely impact wide swaths of rural, exurban and outer suburban areas that neighbor larger city areas and would harm the providers seeking PALs in those areas by increasing the time these entities must spend in the auction, therefore increasing the price drastically. The bidding-by-CMA proposal would not only harm smaller providers, but it would be an inefficient way to auction the spectrum, would fail to

bring back the highest possible value for the spectrum, and would not in any way decrease burdens on the Commission compared to county-by-county bidding.

Although OTI opposed county-sized licenses, counties represent the largest-possible PAL size if CBRS is to achieve the Commission's stated goals of facilitating broadband deployment and 5G innovation by a wide variety of smaller ISPs, enterprises and new innovative new use cases. The Commission agreed that the licenses should be no larger than counties, and wrote at length in its *2018 CBRS Order* about why county-sized licenses were the best compromise to ensure this spectrum best serves the public interest and the mobile industry's desire to build a platform for 5G.

Further, the Commission's proposal contradicts the goals of the original 2015 and subsequent 2018 CBRS Orders, both of which focused on the Commission's statutory obligations under Section 309(j) of the Communications Act. Both the census tract and county-sized PAL rules advanced Congressional directives to advance, *inter alia*, "the development and rapid deployment of new technologies, products, and services for the benefit of the public, including those residing in rural areas," as well as "promoting economic opportunity and competition and ensuring that new and innovative technologies are readily accessible to the American people by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants . . ."

In contrast, the CMA bidding proposal would directly undermine those statutory goals by pricing out smaller WISPs and new market entrants, further solidifying the concentrated power of the major carriers, stifling alternative business models, and gradually transforming the 3.5 GHz band into a traditional mobile service band, rather than the innovative spectrum sharing framework the Commission intended. It would create a market distortion that encourages the

largest incumbent cellular carriers to drive up the price of the less-populated and more rural 'collar' counties around core urban areas, thereby crowding out small ISPs and market entrants to the detriment of consumers in many unserved and underserved areas.

The county-sized PALs adopted in 2018 represented a hard-fought compromise and, although opposed by nearly all stakeholders in the wireless ecosystem, nevertheless set the expectation and spurred investments by WISPs, smaller carriers, the cable industry, IoT providers and many other parties over the past year. Smaller ISPs and other market entrants that have been relying on the current rules and investing heavily to prepare for CBRS deployments with the understanding that PALs will be available on a county-by-county basis at a fair and reasonable cost. The Commission should honor its commitments and adopt bidding on a strictly county-by-county basis.

II. The Proposal for CMA Bidding Will Operate to Exclude Smaller ISPs and Other Parties Seeking PALs in Rural or Less Densely Populated Outer Counties

The Commission's proposed Cellular Market Area bidding system for the 172 CMAs labeled "Metropolitan Statistical Areas" will create a market distortion that artificially inflates prices for PALs in outlying, less-populated counties and results in crowding out the smaller ISPs and innovative market entrants that were meant to benefit from the CBRS framework. By requiring CMA bidders to remain in the auction in outlying counties of urban areas until the core urban counties have concluded, the prices of the PALs for those "collar" counties within the same CMA will be artificially inflated to a point that is likely to crowd out small ISPs and other localized bidders seeking to bring connectivity to these less densely populated and typically less profitable outer counties.

The proposed CMA bidding mechanism will particularly harm rural and small town consumers and businesses that were – until now – the intended beneficiary of CBRS rules aimed at facilitating access to PAL spectrum by a wide variety of competitive ISPs, enterprise networks and other innovative use cases.

A. The Proposal for CMA Bidding Will Operate to Price Out and Exclude Smaller ISPs and Other Parties Seeking PALs in Rural or Less Densely Populated Outer Counties

New America's Open Technology Institute strongly opposes the Commission's proposal to institute a bidding process for PALs in the 3.5 GHz band that forces large ISPs seeking PAL coverage across an entire Cellular Market Area ("CMA") to maintain their bid on PALs in outlying rural and exurban counties in order to win, typically in a later round, PALs in the far more densely-populated and costly urban county where they are most motivated to deploy.[2] What the Commission describes as giving "greater bidding flexibility to bidders interested in serving areas larger than a county" will in practice promote a strategy by the largest mobile carriers to price out smaller entities such as WISPs, cable wireless networks, school and industrial campuses, or other innovative market entrants, from being able to compete fairly for licenses in more sparsely-populated counties near major cities.[3] The Commission's proposal would distort the market – and effectively rig the auction in a manner, whether intended or not, that harms rural and small town consumers and firms.

[2] *CBRS Auction PN* at ¶ 29 ("Under this proposal, a bidder could elect prior to the start of the bidding to bid at a CMA level for blocks in all of the counties comprising certain large CMAs. . . . If a bidder is bidding at the CMA level and wins blocks in the CMA, the bidder would win the same number of blocks specified in the bid in each of the counties in the CMA. If a bidder elects CMA-level bidding for a CMA, the bidder would forego the opportunity to bid also at the county level for the individual counties in that CMA for the duration of Auction 105.").
[3] *Ibid.*

If the Commission implements this bidding process, it will give an additional competitive advantage to the largest national and regional mobile carriers with access to the capital needed to ensure they acquire up to four PALs in the counties that include the most urbanized and affluent areas with the highest ARPU. Although the densification of mobile carrier networks in urban and other high-traffic areas with CBRS spectrum serves the public interest, under the Commission's CMA bidding proposal, carriers are also more likely to stay in the auction and drive up the price of PALs in *less populated counties* where they may have little or no interest in deploying 5G for many years, if ever. The proposal would lead big mobile carriers that select CMA-level bidding to drive up prices for the outlying and less densely populated counties regardless of whether or not they would have been willing to pay the highest price to purchase PALs in those counties absent the proposed CMA-level bidding restriction.

CMA-level bidding, as proposed, does not serve the public interest. As NCTA explained in a recent filing, "the harms of CMA bidding would be very significant," including:

(1) The proposed CMA bidding mechanism forces deep-pocketed mobile carriers to maintain higher and higher bids on PALs in outlying counties they might otherwise drop. This puts county bidders at a distinct disadvantage by artificially directing spectrum to CMA bidders even when county bidders compete by making higher and higher bids.

(2) The CMA bidding proposal risks inefficient results due to each county bidder trying to compete with CMA demand with high prices for individual, outlying counties where the CMA bidders may have no incentive other than to win the core urban county.

(3) The proposal could result in leaving many outlying county licenses unsold even when there is explicit interest and demand from county bidders that drop out because the CMA bidders

are forced to stay in – and force prices up – until bidding on the core urban county PALs are resolved.[4]

B. County-by-County Bidding is Neither More Burdensome Nor Precludes Winning PALs in Every County in a CMA

The Commission's CMA bidding proposal undermines the goals of the CBRS band and the Commission's statutory obligations under Section 309(j) of the Communications Act while yielding no substantial benefits in reducing burdens for the Commission or even for the largest mobile carriers that set out to acquire PALs in every county in a CMA. For both county-by-county bidding and bidding-by-CMA, the Commission will be required to administer the same number of auction rounds—and likely more since the CMA bidders are forced to remain in the lower-value, less-populated counties for more rounds than they might if it wasn't required to maintain their eligibility for the same number of PALs in the CMA's core urban county.

Nor does CMA-level bidding ease any major burden on the national and regional mobile carriers most likely to select that form of bidding. These large carriers – veterans of many past auctions – have on hand sophisticated auction software that allow them to closely follow auction progress on a county-by-county basis regardless of whether they are making an aggregated bid for the CMA. This technology will give larger bidders the ability to automate bids to upload round-by-round into the Commission's bidding system. If a bidder genuinely desires the ability to make its round-by-round decision based on the aggregate cost of a PAL across the entire CMA, the carrier can use these same sophisticated tools to track auction prices on both a CMA and individual county basis. Indeed, for big companies with the expertise and resources that

[4] Ex Parte of NCTA—The Internet & Television Association, AU Docket No. 19-244, at 5 (Oct. 15, 2019) ("NCTA Ex Parte"), https://ecfsapi.fcc.gov/file/10150845527536/101519%2019-244%203.5%20GHz%20Auction%20PN%20ex%20parte%20with%20attachment.pdf.

national and regional carriers possess, it would seem irrational *not* to track both county and CMA prices for each round even if the Commission adopts county-by-county bidding.

By requiring CMA bidders to remain in the auction in outlying counties until the core urban counties have concluded, the prices of the PALs for those "collar" counties within the same CMA will be artificially inflated to a point that is likely to crowd out small ISPs and other localized bidders seeking to bring connectivity to these less-densely-populated areas. This is evident from the map of CMAs. The CMAs that cover MSAs such as "Los Angeles-Long Beach/Anaheim-Santa Ana-Garden Grove/Riverside-San Bernardino-Ontario, CA," "New York, NY-NJ/Nassau-Suffolk, NY/Newark, Jersey City and Paterson-Clifton-Passaic, NJ," "Tucson, AZ," "Salt Lake City-Ogden, UT," "Casper, WY," "St. Louis, MO-IL," and many others would also cover large areas beyond the high-population and high-cost core urban county, and would likely lead to smaller entrants being crowded out of PALs in the counties surrounding those urban counties if the bidding-by-CMA proposal were adopted.[5]

Further, there are several cases where rural counties would be swept up in the Commission's proposed regime for bidding-by-CMA. One of many examples is the CMA of "Rapid City, SD," which includes the rural counties of Meade and Pennington which have populations of 25,434 and 100,948 respectively. The CMA for "Denver-Boulder, CO," includes the county of Gilpin, which has a population of 5,441 people. There are many CMAs that include rural counties with widely varied populations, such as "Parkersburg-Marietta, OH-WV." The population of Washington, OH, is 61,778, while the population of Wirt, WV—located in the same CMA—is 5,717.

[5] Federal Communications Commission, "Cellular Market Areas (CMAs) Metropolitan Statistical Areas (MSAs) and Rural Service Areas (RSAs) Map" (Accessed Oct. 22, 2019), http://wireless.fcc.gov/auctions/data/maps/CMA.pdf, https://transition.fcc.gov/bureaus/oet/info/maps/areas/names/cmanames.txt.

Further, as NCTA details, CMA bidding is inefficient, does not bring the maximum possible value for the spectrum, and "artificially increases spectrum concentration."[6]

III. The Commission's 2018 Order Reflected a Hard-Fought Compromise Intended to Give Smaller ISPs and Other Market Entrants an Equal Chance to Win PALs at Auction

The county-sized PALs The adopted in the Commission's *2018 CBRS Order* represented a hard-fought compromise and, although opposed by nearly all stakeholders in the wireless ecosystem, nevertheless set expectations and spurred investments by WISPs, smaller carriers, the cable industry, IoT providers and many other parties over the past year. The 2018 CBRS Order describes explicitly why PAL areas larger than counties would, on balance, not serve the public interest or align as well with the Congressional directives for auctions clearly expressed in Section 309(j) of the Communications Act. Commission should honor its commitments and facilitate the availability and affordability of PALs for smaller ISPs, market entrants and other enterprise – such as hospitals, schools, entertainment venues, and other enterprises – seeking to deploy their own neutral host or customized IoT networks.

In its *2018 CBRS Order*, the Commission stated that auctioning off licenses county-by-county represented a compromise that kept "the incentives and ability of smaller innovators to make use of PALs, reserved GAA spectrum, and unreserved GAA use as appropriate" intact.[7] The Commission specifically concluded that "counties represent a more appropriate middle ground that will address many of the concerns raised by stakeholders in this proceeding," noting that the choice of counties "balances the concerns that some commenters have raised about

[6] *NCTA Ex Parte*.
[7] Report and Order, GN Docket No. 17-258, at ¶ 35 (Rel. Oct. 24, 2018) ("2018 CBRS Order"), available at https://docs.fcc.gov/public/attachments/FCC-18-149A1.pdf.

licensing PALs as small as a census tract with the concerns that other commenters have raised about licensing PALs as large as a PEA."[8] The Commission highlighted that counties as the geographic size for PALs was the "main commonality" among the compromise and hybrid proposals submitted in the record.[9]

The Commission majority went on to detail reasons why they believe county-sized PALs represent an optimal compromise. The *2018 CBRS Order* noted that auctioning PALs county-by-county would "still enable the construction of localized, private networks using 3.5 GHz spectrum," alluding to the driving force behind the creation of the CBRS framework in the 3.5 GHz band.[10] The Commission also sought to reassure rural providers that county-sized PALs would "service the needs of rural communities and will allow new and innovative services to reach underserved and unserved communities" to an extent that remained consistent with the goals of the Communications Act.[11]

Moreover, the Commission acknowledged that increasing the size of PALs any more than counties does not serve the public interest, stating that "the incremental benefit for 5G mobile use of going from counties to MSAs or PEAs would be far less than the incremental costs incurred by other potential users of the band," and noting the concerns of WISPs that "the incongruity between PEAs and WISP service footprints will diminish or foreclose their ability to win PALs at auction."[12]

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[8] *Ibid.*
[9] *Ibid.*
[10] *Id.* at ¶ 37.
[11] *Id.* at ¶27.
[12] *Id.* at ¶ 39 ("We reject arguments that we should adopt PEAs nationwide, as petitioners, T-Mobile, and Verizon support, or MSAs in urban areas, as suggested in multiple hybrid proposals. We believe that the incremental benefit for 5G mobile use of going from counties to MSAs or PEAs would be far less than the incremental costs incurred by other potential users of the band. In particular, we agree with those commenters that cite the potential negative effects of adopting license areas as large as PEAs. Many WISPs express concerns that the incongruity between PEAs and WISP service footprints will diminish or

The Commission also acknowledged that it is required, in defining license areas and terms, to take account of the public policy goals that Congress sets forth in of Section 309(j) of the Communications Act. In the *2018 CBRS Order*, the Commission stated that it had those goals in mind as it decided to change the rules regarding PAL licensing to "more effectively promote competition and ensure the development and rapid deployment of new technologies to consumers, including to those in rural areas, disseminate licenses among a wide variety of applicants, and encourage efficient and intensive use of the spectrum."[13]

Section 309(j) provides that the FCC, in establishing a system of competitive bidding, shall aim to achieve both "the development and rapid deployment of new technologies, products, and services for the benefit of the public, including those residing in rural areas," as well as "promoting economic opportunity and competition and ensuring that new and innovative technologies are readily accessible to the American people by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants . . .."[14] In adopting census tract bidding (2015) and then county-by-county bidding (2018), the Commission justified these relatively small license areas as supporting those statutory objectives.

OTI urged the Commission to retain the census tract-sized PALs. Nonetheless, the Commission's compromise of county-sized PALs – combined with a fair chance for smaller providers to acquire PALs in less populated counties at a reasonable cost – arguably still achieves the goals of Section 309(j) in an emerging 5G ecosystem where *capacity*, not very wide area coverage, is the goal. The CMA bidding proposal, on the other hand, would directly undermine those statutory goals by pricing out smaller WISPs and new market entrants, further

foreclose their ability to win PALs at auction. In response to these concerns, we have decided not to increase the size of the PAL license area to PEAs.").

[13] *Id.* at ¶ 7.

[14] 47 U.S.C. § 309(j)(3)(A), (B).

solidifying the concentrated power of the major carriers, stifling alternative business models, and gradually transforming the 3.5 GHz band into a traditional mobile service band, rather than the innovative spectrum sharing framework the Commission intended.

The original *2015 CBRS Order*, adopted on a bipartisan and unanimous basis, supported making the 3.5 GHz spectrum available on a "localized" and "targeted" basis to ensure that the spectrum-sharing framework remained user- and industry-neutral. As the *2015 CBRS Order* noted, an auction that makes PALs available and affordable to the largest possible number of users and use cases – including WISPs deploying broadband to rural and sparsely populated areas and private neutral-host LTE and IoT networks by potentially thousands of other enterprises and community anchor institutions – best achieves the policy goals consistent with Section 309(j).[15] The unanimous Commission stated that this statutory mandate is "particularly compelling in light of the opportunities for participation with much lower capital investment requirements associated with smaller service areas, as we have previously recognized in other services in trying to address the substantial challenges faced by new entrants."[16] The Commission further noted that larger-sized license areas, such as those in traditional mobile bands, would be "inconsistent with our desire to promote innovative, low power uses in this band, such as small cells, which align well with small, targeted geographic areas such as census tracts."[17]

In addition, the current proposal would upset expectations, strand investments, and harm rural and small town communities in particular. A diverse range of wireless providers across the country are already investing in – and in many cases deploying – CBRS-compatible deployments

[15] Report and Order and Second Further Notice of Proposed Rulemaking, GN Docket No. 12-354, ¶ 100 (Rel. April 21, 2015).
[16] *Ibid.*
[17] *Ibid.*

with the understanding that PALs will be available on a county-by-county basis. To fully realize the potential of the CBRS framework, the Commission must adopt bidding rules to catalyze the entrance of small ISPs and new entities, as they are most reliant on this auction providing both a baseline amount of interference-protected capacity as well as the ability to reassure investors and lenders that they have the *licensed* spectrum necessary to ensure quality of service to a profitable customer base.

The bidding-by-CMA proposal represents a dramatic reversal in policy that could pull the rug out from under both small ISPs and larger firms planning on entering the market with the understanding that interference-protected PALs will be available on a more targeted, affordable county-size basis. As the Public Interest Spectrum Coalition (PISC) previously detailed in comments in 2018, there has already been an "outpouring of collaboration, innovation and investment around this path-breaking approach to unlocking unused prime spectrum capacity."[18] Rural ISPs are "already deploying base stations for use at 3650 MHz that will require only a software upgrade to deliver 100 Mbps download speeds to customers once the SAS and ESC systems are authorized and the full 150 megahertz CBRS band is available for use."[19] WISPA has similarly – and with reference to specific members and communities – that: "Licensees have

[18] Comments of the Public Interest Spectrum Coalition, GN Docket No. 17-258, GN Docket No. 15-319, GN Docket No. 17-183, GN Docket No. 14-177, at 8 (Sep. 11, 2018), available at https://ecfsapi.fcc.gov/file/1091216959118/PISC_Comments_SpectrumPipelineAct_FINAL_AsFiled_091118.pdf.

[19] *Id.* at 15 ("Rural ISPs are also planning on CBRS spectrum to enhance the quality and lower the cost of rural deployments funded by Federal subsidy programs, including especially the Connect America Fund ("CAF"). This is reflected by the large number of WISPs that won at CAF Phase II reverse auction, concluded earlier this year with the results announced in late August.").

deployed thousands of sites serving tens of thousands of customers and made equipment design, investment, and deployment decisions in reliance on the certainty of the CBRS rules."[20]

Companies continue to move forward and deploy service with the understanding that the Commission's 2018 Order remains the rules of the road. Federated Wireless announced in September that it would begin initial commercial deployment in both urban and rural markets in 36 states in the 3.5 GHz band to "accelerate the availability of high-speed, low-cost, wireless access to mobile data."[21] WISPs continue to rely on CBRS spectrum to improve speeds in rural areas. For example, Midco – a mid-sized cable operator – is now deploying fixed wireless LTE base stations in the CBRS band capable of filling coverage gaps in underserved (and less populated) areas with 100 Mbps/20 Mbps speeds at up to eight miles from stations when there is line of sight, and up to four miles when there is no line of sight.[22] The Wireless Innovation Forum (WinnForum), which facilitated the unprecedented, multi-stakeholder process to develop the CBRS technical specifications, has stated that full commercial service by a range of providers is expected by December 2019—with the caveat that these initial deployments will rely on General Authorized Access (GAA) tier until the Commission has conducted the PAL

[20] *Ex Parte Letter* of WISPA Counsel Stephen Coran, Amendment of the Commission's rules with Regard to Commercial Operations in the 3550-3700 MHz Band, GN Docket 12-354, at 11 (April 7, 2017).

[21] Federated Wireless Press Release, "Federated Wireless Announces Industry-first 3.5 GHz CBRS Network to Support Initial Commercial Deployments of Shared Spectrum Services" (Sep. 10, 2019), https://www.federatedwireless.com/federated-wireless-announces-industry-first-3-5-ghz-cbrs-network-to-support-initial-commercial-deployments-of-shared-spectrum-services/.

[22] Joan Engebretson, "CBRS Deployments Imminent: Verizon, Charter Among Initial Users; WISPs Will Gain Speed," Telecompetitor (Sep. 10, 2019), https://www.telecompetitor.com/cbrs-deployments-imminent-verizon-charter-among-initial-users-wisps-will-gain-speed/ ("WISPs already have been providing fixed wireless service using a portion of the CBRS band that was already available for unlicensed use. These companies focus on rural areas where higher-speed wireline options are not available. Some of the WISPs have deployed equipment that can be upgraded to use more of the band once it becomes available for commercial deployment, which should boost speeds.").

auction.[23] The initial reliance on GAA spectrum in anticipation of the PAL auction makes an inclusive and fairly-priced auction for PALs even more important.

IV. Conclusion

The Commission should abandon its CMA bidding proposal and move ahead with the hard-fought compromise of county-by-county bidding for the upcoming 3.5 GHz auction. If the Commission fails to do so, it will be undermining the stated purpose of the CBRS framework and turning what was an innovative spectrum-sharing regime to empower smaller ISPs and new market entrants into another wide-area mobile coverage band that will not meet the needs of rural and small town areas. The 5G future will require a diverse set of networks, and the CBRS band is central to the U.S. building a platform for a strong 5G future. The Commission should honor the compromise of county-by-county bidding for PALs and drop the CMA bidding option.

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[23] CBRS WinnForum Standards, "CBRS Status Summary" (July 17, 2019), https://cbrs.wirelessinnovation.org/cbrs-status-summary.